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ABSTRACT

Questionnaires concerning the nature of work performed and the work setting, plans for continuing formal education, and opinions regarding the relevancy of training received were sent to all individuals (3,282) certified by the Board of Certified Laboratory Assistants (CLA's) since certification began in 1965. Some findings from the 970 returned questionnaires were: (1) There was wide divergence in the utilization of CLAs; duties reach such unexpected areas as teaching, supervision, and X-ray and radioisotope work, (2) A surprising amount of independent operation was reported; 10 were in charge of their laboratories and a considerable number received only minimum supervision, (3) CLA training as outlined in the "Guide Book for Approved Schools of Certified Laboratory Assistants" was generally considered at least adequate, (4) The interest in continuing education was high, and (5) Some personnel who had studied and worked in the armed forces had evidently received a longer period of training than graduates of Certified Laboratory Assistant schools and wanted responsibility above the level of the CLA. (JK)

ED035739

WORK EXPERIENCE OF CERTIFIED LABORATORY ASSISTANTS

VTC10066

National Committee for Careers in Medical Technology
and National Council on Medical Technology Education
Bethesda, Maryland

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January 1969

A NOTE ABOUT THIS REPORT

I am sure that all concerned with the evolution of medical laboratory services and organization will find this report both interesting and provocative. The reader, however, should be fully aware of its limitations.

The report is based on information from two sources:

(1) Questionnaires completed and returned by Certified Laboratory Assistants;

(2) Background material compiled by the National Committee for Careers in Medical Technology and included in its final report on a Certified Laboratory Assistant Field Project, funded by the U.S. Department of Labor.

This questionnaire was the principal technique employed in an informal survey, the purpose of which was to obtain a general view of the past training and work experience of CLA's.

The survey does not purport in any way to be an exercise in educational research or a study in depth of manpower utilization. It should be borne in mind that each CLA estimated for himself the percentage of total time devoted to each of a variety of tasks, with and without supervision. Inevitably, some arbitrary judgements were exercised in the summation of these returns, but every effort has been made to present the CLA's own view of his work and training, undistorted by subjective interpretation. With these qualifications, however, we believe that the results are generally reliable, as well as indicative of the need for further study.

Your comments are invited. Additional copies of the report may be obtained from the office of the National Council on Medical Technology Education, 9650 Rockville Pike, Bethesda, Maryland, 20014.

A. Wendell Musser, M.D.
Chairman

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WORK EXPERIENCE OF CERTIFIED LABORATORY ASSISTANTS

Introduction

This report presents the findings of a survey of the work experience of Certified Laboratory Assistants, conducted by the National Council on Medical Technology Education.

The information used in this study was taken from a questionnaire sent in May, 1968, to all individuals (3,282) certified by the Board of Certified Laboratory Assistants since certification began in 1965. The questionnaire was in the form of an over-size, self-addressed and stamped postcard. Certificants were urged to complete and return the card in a covering letter, and were invited to make additional comments either on the card itself or separately in a letter.

This report was prepared after examination and compilation of the returned questionnaires by the following staff personnel: Barbara Pryor, Athalie Lundberg, MT(ASCP), LaVerne Holt, Margot Davis, Annemarie Rogin, Doris Schwartz.

Response to Questionnaires

Questionnaires were returned by 970 of the approximately 3,200 Certified Laboratory Assistants who received them. As will be evident from this analysis, the respondents took full advantage of the space provided on the questionnaire cards to offer a wide range of facts, opinions and suggestions. Twenty-two of the respondents sent lengthy letters along with their returned questionnaires. The questionnaire is reproduced here as Exhibit A. (See Page 3)

Of the 970 respondees, 51 are not now working as laboratory assistants. The 22 who explained why named as their reasons family responsibilities, ill health, change of residence, other employment, full-time school attendance -- with five stating they had been promoted to other laboratory positions and one stating he had left laboratory employment because of low pay.

Of the 970, 89 became eligible for certification through either the grandfather clause (51 who had long experience in laboratory work prior to establishment of training programs by the CLA Board) or through training received in military service (38).

Some of the questionnaires were difficult to categorize because of conflicts. For example, nine of the military personnel reported that they also worked in local hospitals on nights and weekends.

EXHIBIT A

QUESTIONNAIRE TO CERTIFIED LABORATORY ASSISTANTS

1.

	Check if you Work in This Area	Approximate Percent of Your Time
Bacteriology		
Serology		
Parasitology		
Hematology		
Clinical Chemistry		
Blood Banking		
Urinalysis		
Basal Metabolism-EKG		
Other		

2. Employed in: (Check one):

Hospital under 300 beds ____
Hospital over 300 beds ____
Public health laboratory ____
Industrial laboratory ____
Private laboratory ____
Other (Specify) ____

3. Describe type of work you perform independently.

4. Have you plans for continuing formal education? Explain.

5. How does your training relate to the work you are now doing? Comment on changes in training which would have been more helpful.

Place of Employment, Procedures Performed

To obtain a picture of the variety of procedures performed by CLAs in relation to the type and size of institution employing them, answers to Questions #1 and #2 of the questionnaire were collated. The results are shown in Exhibit B. (See Page 6)

The majority of CLAs worked in hospitals -- 726 out of 958, or approximately 75%. These 726 are divided 54% to 46% between hospitals having less than 300 beds and larger hospitals. There was practically equal division between the number (83) who reported working in the private laboratories of physicians or group-practice clinics and those (82) working in clinical laboratories serving a number of physicians. The other respondees indicated they worked in research, Blood Banks, or "other" installations.

Analysis of the number of laboratory areas in which a CLA conducted his work was of interest because of the importance of this factor on CLA training practice and requirements as well as on other aspects of this relatively new laboratory career category.

Of the 194 persons reporting duties confined to only one category of laboratory procedures 117 were employed in hospitals with over 300 beds. This was to be expected, inasmuch as hospital laboratories of this size, performing large numbers of tests daily, tend to become departmentalized and even sectionalized within departments. Further, many of the 219 employed in large hospitals who reported working in multiple departments, qualified this by indicating they worked primarily in one department but helped in others as needed. Estimated percentages of time spent in different departments might show gaps as wide as 98% in one area and 1% each for two others.

On the whole, the number of areas worked by the 219 over-300-bed hospital employees who reported multiple duties ranged from 42 working in two areas to 22 who worked in all eight. However, of the 116 who reported working in five or more areas, 105 added that they covered these on night or weekend duty. Thus, even though some personnel in over-300 bed hospitals have duties in multiple laboratory areas, their work seems to be generally specialized in one department or perhaps two, with assignments in other areas in emergencies or off hours.

In hospitals with less than 300 beds, the picture is different. Of the 390 responses from CLAs in the smaller hospitals, 93 indicated working in one to four areas while 297 stated they customarily worked in from five to eight different areas. (See Exhibit B, Page 6) Because they generally have fewer employees, smaller hospitals must require more diversified duties of their staffs than large ones do.

Although the question was not asked, 16 of the CLAs in under-300 bed hospitals volunteered the information that they were either the only employees in the laboratory or worked with one or two others often less qualified, performing all the procedures done in the laboratory. This was usually a limited list of simple basic chemistries, blood counts, urinalyses, and blood banking.

For both the 82 CLAs who indicated they were employed in physicians' or clinics' private laboratories and the 83 who indicated employment in clinical laboratories serving numbers of doctors, the greatest concentrations in terms of areas of practice were in four, five, and six areas, as can be seen in Exhibit B.

EXHIBIT B

NUMBER OF LABORATORY AREAS IN WHICH CLAs WORK AS RELATED TO PLACE OF EMPLOYMENT

Place of Employment	Number of Laboratory areas 1	2	3	4	5	6	7	8	Total
Hospital under 300 beds	33	17	19	24	51	77	89	80	390
Hospital over 300 beds	117	42	27	34	38	27	29	22	336
Public Health Laboratory	5	3	-	3	2	-	1	1	15
Industrial Laboratory	5	1	1	-	1	-	-	-	8
Laboratory serving a number of doctors	7	2	10	18	16	17	7	5	82
Private laboratory in doctors office or clinic	2	4	6	27	14	17	9	4	83
Research	19	4	3	1	1	1	-	-	29
Community Blood Bank	6	1	-	-	-	-	-	-	7
Other	-	1	2	2	1	1	-	-	6
No answer	-	-	-	1	-	1	-	-	2
Total Responses	194	75	68	110	123	141	135	112	958

The laboratory procedures performed varied with the type of practice. For example, cardiologists required EKGs, prothrombin times, and chemistries; internists needed a variety of hematological and chemical determinations; obstetricians used primarily hemoglobin and Rh tests and urinalyses. Most procedures, however, were "hand methods" using the simplified sticks, pills and kits offered by laboratory supply houses.

In some cases where the CLA was the only employee in a laboratory, additional duties were reported such as preparing patients for examination, administering skin tests, keeping records, and so on.

The 15 CLAs working in Public Health laboratories described their duties as bacteriological examination of water, food, milk and air; serological procedures; chemical determination for air pollution; and one as cytology.

The 8 CLAs employed in industrial laboratories reported assignments such as working with wood, aluminum alloys, herbicides, cement, oils, lubricants, cleaning solutions, cotton, tobacco and drugs. Procedures used included gas chromatography, electrophoresis, and bacteriology, serology, hematology, and chemistry as assay or control methods.

Positions in research were reported by 29 individuals. Of these, 19 worked in only one performance area, and another 7 in two or three. They worked on fruit flies, mice, rats, plants, soil and tissue cultures. They performed antibody assays, enzyme extractions from leukocytes and streptococci, thyroid uptake studies, starch gel electrophoresis, chromosome culture and analysis, brain lipid assay, protein purification by column chromatography.

Duties also included monitoring urine and air samples for radiation, testing DNAase activity, analysing soil and perfusing livers. Some employees assisted in planning and evaluating research projects.

The "other" category for place of employment included schools (one a junior college) in which laboratory assistants have duties varying from instructing students to demonstrating procedures and proctoring and grading tests.

It should be noted that although the questionnaire employed for this study asked in Question #1 the approximate percentage of time spent in the various laboratory departments, the answers are not analyzed in this report. Because of the many variables reflected in the percentages -- often they added up to more than 100% due to night and weekend duty in addition to regular employment -- compilation and characterization of the data was found to be impractical.

Areas of Work, Independent Performance

A comparison of areas in which CLAs reported working with those in which they said they worked independently is given in Exhibit C. (See Page 9). It will be noted that Hematology, Chemistry and Urinalysis were the areas most frequently named both for performance of duties and for working independently.

EXHIBIT C

AREA OF WORK, WORK INDEPENDENT OF SUPERVISION

	Work in This Department	Work Independently in This Department
Bacteriology	489	325
Serology	454	328
Parasitology	268	191
Hematology	729	575
Chemistry	718	571
Blood Bank	469	340
Urinalysis	691	511
BMR - EKG	376	267
No answer	30	101

Reports of specific supervision were in these areas:

Blood Bank	4
Bacteriology	12
Special chemistries	5
Abnormal results only	4
General, non-specified areas	31
Work independently but can call on MT or Pathologist	40

Reported working in the following departments or procedures which are not specified in the Guide Book for an Approved School for Certified Laboratory Assistants:

Bacteriology, Public health (food, water, milk)	4	
Electrophoresis	1	
Radioisotopes	15	
X-Ray	31	
Histology	47	
Mycology	4	
Virology	3	
Special chemistry	68	
Cytology (screening as well as staining)	12	
General pathology	1	(military)
Clinical genetics	4	

The predominance of Hematology, Chemistry and Urinalysis as both CLA work area and independent work areas probably reflects the fact that these procedures are those most commonly and frequently performed in hospital laboratories.

Some of those responding to Question #3 gave conflicting answers to the query about working independently. CLAs who reported, for example, "All my work is done independently" would then indicate they could call on a medical technologist or pathologist when a problem arose and were expected to check abnormal results with a supervisor. In such cases, the degree of independence from supervision is hard or impossible to measure. Many respondents indicated working with no direct supervision in their particular section of the laboratory but implied there was a supervisor or department head in the picture. Further, some who replied that they were the only persons in the laboratory, said a pathologist or physician was available for problems, sometimes adding by telephone.

It was interesting to note that among the 89 CLAs who reported they received certification under the grandfather provision or through military training were ten who said they were in charge of their laboratories. Some had had as many as twenty-five years of laboratory experience.

Duties Performed by CLAs Reporting Work in One Area Only

A variety of departments of the clinical laboratory were represented by the 194 CLAs who stated they worked in only one area, including some specifically named in the "Other" space which are not ordinarily thought

of as within the CLA province and for which training is not included in the Guide Book for Approved Schools of Certified Laboratory Assistants. The Guide Book was developed by the Board of Laboratory Assistants, whose eight members represent the American Society of Clinical Pathologists and the American Society of Medical Technologists and work with the Council on Medical Education of the American Medical Association on school standards and certification.

The areas named, and number of times listed, by the 194 "work-in-one-area" CLAs were:

Clinical chemistry	84	Cytology	3
Hematology	40	Teaching	3
Blood banking	25	Biological research	2
Bacteriology	18	Radioisotopes	1
Histology	10	Radiation monitoring	1
Industrial testing	6	Supervision	1

Those familiar with the Guide Book will note that histology, cytology, teaching, radioisotopes, radiation monitoring and supervision are duties for which training is not included in Approved School curriculums.

Duties Performed Compared with Training Listed in Guide Book

Similarly, those working in more than one area of the laboratory noted that they worked in departments not included in Approved School training. Non-covered departments mentioned by the "work-in-more-than-one area"

group were:

Histology
X-Ray
Radioisotopes
Cytology
Mycology
Virology
Clinical Genetics
General Pathology

In answering Question #3 on the questionnaire, "Describe type of work you perform independently", respondents named a number of procedures not included in the Guide Book to be taught to students. The following pages give the recommended procedures for a number of departments and then list representative additional procedures mentioned by respondents. (Since research laboratories represent specialized categories, data from employees engaged in research was omitted.)

BACTERIOLOGY, SEROLOGY AND PARASITOLOGY
CLA Board, Approved training:

1. Staining of slides for bacteriological study.
2. Application of sensitivity discs to culture plates and reading results.
3. Preparation of bacteriologic and serologic specimens for mailing.
4. Performance of one flocculation test for diagnosis of syphilis.
5. Fecal concentration for parasitologic study.

Additional procedures reported on questionnaries:
Bacteriology

Processing and inoculating tuberculosis specimens.
Biochemical procedures for identification of organisms.
Isolation and grouping of beta-hemolytic streptoccocci.
Drawing blood cultures.
L-form and PPLO culture.
Hospital infection control culture surveys.
Bacterial identification.
Media preparation.
Preparation of cultures for student laboratories.

Serology

Heterophile and febrile agglutinations.
Viral complement fixation tests.
Antistreptolysin titer.
Miscellaneous such as cold agglutinins, pregnancy, rheumatoid arthritis, C reactive protein, infectious mononucleosis, Hashimoto's disease.

Parasitology

Identification of ova and parasites, including pinworms.
Malarial smears and identification.

HEMATOLOGY
CLA Board, Approved training:

1. Collection and performance of a complete blood count. Reading of the differential shall be limited to normal pattern. Questionable or abnormal patterns should be referred to qualified personnel for evaluation.
2. Performance of bleeding time and coagulation time.
3. Performance of a sedimentation rate.
4. Performance of a prothrombin time, using adequate controls.

Additional procedures reported in survey:

Sickle cell preparations and examination.
Platelet counts.
Reticulocyte counts.
Hemoglobin electrophoresis.
Coagulation studies, including Partial Thromboplastin Test, Prothrombin consumption.

CLINICAL CHEMISTRY
CLA Board, Approved training:

1. Nonprotein partition (NPN and/or BUN, creatinine, uric acid)
2. Protein partition by a chemical method.
3. Glucose
4. Amylases
5. Bilirubin
6. Flocculation test for liver function.

Additional procedures reported in survey:

Automated procedures on SMA 30 and 60, 4 to 12 channel instruments
Electrolyte determinations, usually sodium, potassium
Enzyme procedures (SGOT, SGPT, LDH, lipase, phosphatases, CPK, Cholinesterase)
Protein-bound iodine and T_3 determinations of thyroid activity
Vanillylmandelic acid determinations

17-keto steroids, ketogenic and OH-corticosteroids
Catecholamine determinations
Barbiturate, bromide, salicylate
Iron and iron-binding procedures
Blood gas and pH procedures
Cholesterol determinations
Bromsulphtalein test
Calcium, phosphosus, magnesium, inorganic phosphate, lithium
Lipoprotein test
Carotene and Vitamin A assays
Urine chemistries
Cerebro-spinal fluid chemistries
Serotonin
Electrophoresis and ionophoresis
Blood volume determination

BLOOD BANK
CLA Board, Approved training:

1. Care of equipment
2. Slide and test-tube methods for ABO grouping and Rh testing
3. The importance, and a system, of blood bank records
4. Proper use of reference laboratories
5. Preparation of a donor for phlebotomy
6. Crossmatching of blood and Coombs test

Additional procedures reported on questionnaire:

Complete antibody screening and identification
Atypical antibody identification
Prenatal and cord blood studies, antibody titers
Plasmaphoresis

Miscellaneous tasks noted in "Other" space on the questionnaire included:

Histology -- preparation of tissue sections, often including staining of cytology slides

Cytology -- screening of cervical and other exfoliative cytology smears
Mycology and Virology -- culture and identification procedures including tissue cultures

X-Ray -- usually in a small hospital in which laboratory and radiology were combined

General pathology -- autopsy assisting

Clinical genetics -- culturing, harvesting of chromosomes from blood, chromosome analysis from blood, buccal smears, sex chromatin counts

Teaching was an unexpected answer to Question #1 and #3. In addition to three who listed it as their sole duty, 12 included it as part of their work description.

Some of the specific teaching duties listed on the returned questionnaires were:

"Supervising OJT (on-the-job-training) of students in blood processing procedures."

"Teaching immunology and parasitology procedures to MT(ASCP) students."

"Teach medical technology students when they come to chemistry department."

"Instructor in chemistry."

"In charge of bacteriology department and instruct CLA students."

"Instructing students in various tests (hematology, blood bank)."

"Assist an MT(ASCP) in running the medical technology program at the college."

"Set up labs, prepare reagents, grade tests, proctor tests in Medical Laboratory Assistant school."

"Aid in teaching new students."

"Assist in training of medical technology students (bacteriology)."

"Instructor: give out assignments, proctor and grade exams, show films, assist and instruct students in proper lab techniques."

Relation of Training to Present Work

Question #5, "How does your training relate to the work you are now doing?", elicited detailed responses, including letters giving personal experiences and opinions.

699 laboratory assistants stated the training they had received was relevant to their work: 57 stated it was not. Of the latter, 31 were among those doing tasks for which training is not included in the "Guide Book" for approved schools. Four of the 31 said they do not use their CLA training at all in their jobs.

A total of 169 did not respond to this question, which may indicate at least some doubts in these employees' minds about the relevance of their training. Some of the 169 had become certified under the grandfather clause based on extended laboratory experience and therefore had no formal CLA training with which to relate their work.

The following tabulation was compiled from the comments volunteered in regard to the time needed for training on various subjects:

SUBJECT	NEEDED MORE TIME	SPENT TOO MUCH TIME
Bacteriology	64	
Chemistry	55	
Blood Bank	35	
Automation	35	
Hematology	23	1
Parasitology	19	1
EKG-BMR	13	2
Serology	7	
Histology	6	2
Urinalysis	5	3
Mathematics	5	1
Cytology	3	
Advanced Chemistry	2	
Mycology	2	
Radioisotopes	2	
Fluorescent antibody	1	
Other	20	

Not noted in the above compilation was that a longer didactic period of training was suggested by 60 who indicated the need for more education in the theory behind the procedures taught. On the other hand, 3 stated too much time was spent on theory.

In other comments, 7 persons suggested additional time should be spent on manual techniques while 4 stated too much time was devoted to manual methods. In the latter group, one mentioned the need for knowing manual

methods "in case machinery breaks down."

Additional clinical training was desired by 7 and better organization and supervision of the clinical phase was suggested by another 7. Five regretted that there was too little patient contact during CLA training. Four each suggested that there was too much rotation in their laboratory training, that training would have been better if more medical terminology was taught, and that X-Ray techniques be added to the course. One mentioned that more visual aids would have been beneficial.

The suggestions that more information in various subjects be added to the CLA curriculum were accompanied by the realization by many that one year was not enough to encompass the additions recommended. Forty-seven recommended lengthening training to allow more time in both didactic and practical aspects. Of these, two suggested 15 months, seven thought 18 months would b desirable, while twelve preferred a 2-year course. Two mentioned the desirability of allowing credit for the CLA program toward a college degree. Several in the military service wished to translate some of their training and experience into college credits to aid in obtaining advanced standing.

Thirty-seven suggested refresher courses at definite intervals, workshops, seminars, or continuing education courses of some sort to keep CLAs current on latest developments.

Continuing Education

The responses to Question #4 indicated that many Certified Laboratory Assistants are enrolled in college and other training courses or have plans to enroll. The numbers "presently attending" or planning to attend soon are shown in Exhibit D. (shown below)

EXHIBIT D

EDUCATION BEYOND CLA

	Presently Attending	Plan to Attend in Near Future
Adult education courses (Night school)	-	26
Junior college	7	5
Full time	1	-
Part time	6	-
College or university	24	105
Full time	10	-
Part time	48	-
Part time (not specified)	2	66
Totals	98	202

Most college enrollees listed medical technology, or some branch of it, as their college major. One recently received a degree in medical technology, and one was in the clinical year. Two were enrolled in cytology schools. In related medical fields, one had entered nursing school and one was taking a medical secretary course.

A few were using CLA training to work their way through college in a wide range of fields including business administration, biology, chemistry and elementary education.

An additional 108 respondents indicated they hoped enventually to continue their educations. Of these, 52 said only that they would like to continue formal education at some time; 30 when financially able, and 26 when family responsibilities lessened. Some were newly-married or had small children. Others were working while their husbands attended college.

Of the 970 CLAs who returned questionnaires, 496 stated they definitely did not plan to attend college. Some were CLAs who had been working for a number of years, gained certification through the "grandfather clause", and were often senior employees in their laboratories. It was noted, however, that quite a few of the "grandfathers" are attending college. Since the grandfather provision required three or more years of laboratory employment, many of these would be in their twenties, at least.

Other reasons given for not continuing education were family responsibilities listed by 51, financial aspects by 16, and not planning to stay in the field by six. Of the latter, most were men who did not feel the salaries were sufficient to support a family. One young man had left to join a pharmaceutical company.

Twenty-nine of the 496 preferred periodic refresher courses, workshops, seminars or other local educational activities to enrollment in a college.

SOME OBSERVATIONS

1. There is a wide divergence in utilization of CLAs who seem to run the gamut from highly specialized personnel performing a minimum variety of tasks in some places to veritable jack-of-all-laboratory-trades in small installations. Over-all, the range of duties seemed much wider than was contemplated when the CLA program was started, reaching such unexpected areas as teaching, supervision, and X-Ray and radioisotope work.

2. A surprising amount of independent operation was reported by the CLAs surveyed. Ten stated they were in charge of their laboratories and a considerable number indicated they received minimum supervision -- possibly only by telephone. Comments on the questionnaire cards revealed that many work alone when taking emergency, night and weekend duty, especially in small laboratories. Exact counts of the numbers in these positions were impossible because of variables in the definitions of such key words as "independence" and "supervision".

3. Despite the evidence of utilization of CLAs in duties for which their training was not designed, there were indications that the CLA training as outlined in the Guide Book is evidently at least adequate, on the whole. Only 8% (57 out of 699) stated that the training they received was not relevant to their work, and the majority of these were among those doing tasks for which the training was not intended. Further testimony to the value of the training received came in comments on questionnaires such as: "The careful work habits I learned and some basic principles are a great deal of help."

4. Although the specific question of whether proper CLA training would require more time than presently allocated was not asked, comments made in response to Question #5 on "changes in training" indicated desire on the part of some, at least, for more detailed study. Need for more training time in a variety of topics was stated 297 times on the questionnaires whereas there were only 10 notations of too much time spent in training.

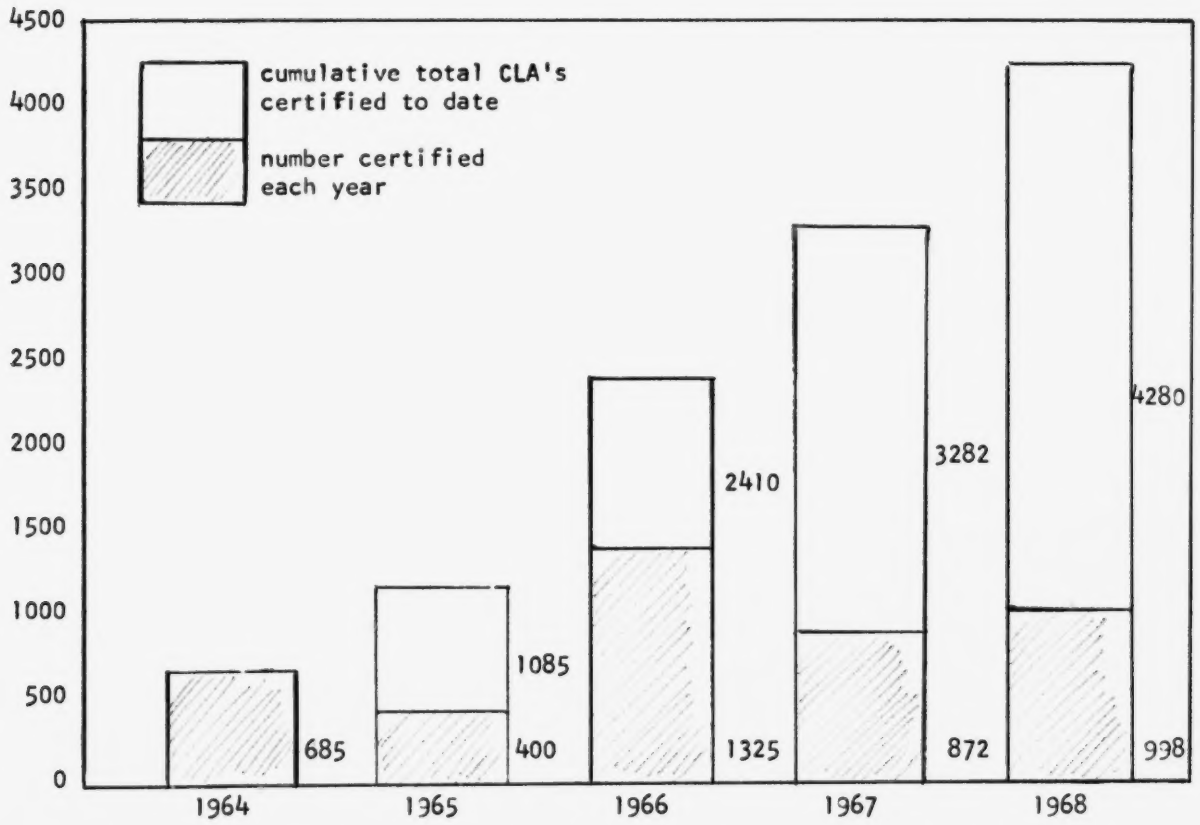
5. The interest in continuing education of this sample of Certified Laboratory Assistants was high. A total of 408 out of 904 who responded were either enrolled in courses or had plans to do so "soon" (202) or "sometime" (108). This indicates a higher degree of interest in continuing education than one might expect from, say, a like number of clerical workers. The thought was expressed by some who examined the returns that persons accepted into CLA courses who are in the upper third or fourth of their high school classes may be too highly qualified for positions as laboratory assistants. This, it was pointed out, might help explain why many CLAs are performing work at a higher level than that for which they were trained.

6. In comments on questionnaires, there was evidence that some personnel who studied and worked in the armed forces received a longer period of training than graduates of Certified Laboratory Assistants schools. Such personnel, on leaving military service, want and require responsibility above the level of the CLA. This may indicate the desirability of a category of laboratory employee above that of CLA and of a means of giving credit for military training through equivalency examinations or similar devices. A comment of one who was in Army service of nine years illustrates the problem. The comment was: "I am not now licensed with CLA because I found it a hindrance to me wagewise. I

work as an unregistered medical technician."

7. Persons who trained in CLA schools can usually get jobs when they desire employment. Only two or three of the respondents reported they were unemployed because of reasons other than family responsibilities or personal choice. Many utilized the limited space on the questionnaire card to express appreciation for their training. One noted, "Without my training I would still be scrubbing floors." Another, evidently trained with support through Manpower Development and Training, expressed thanks to the Department of Labor for making training possible.

INCREASE IN CERTIFIED LABORATORY ASSISTANTS 1964-1968



NOTE: Certification examinations are given each October. The large number certified in 1966 reflects the closing date for taking the examination under the so-called "grandfather clause", persons who had worked three or more years in the clinical laboratory in lieu of the formal CLA training.

The totals include those certified by reciprocity (certain programs established prior to approval of the CLA category, and servicemen receiving specific levels of training in various branches of the military service).